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Notes on some of the rarer Species of *Polygonum*.

BY JOHN K. SMALL.

(PLATE 224.)

Some observations on the specimens of *Polygonum*, in the Herbaria of Prof. T. C. Porter, at Lafayette College, Mr. E. P. Bicknell and the Academy of Natural Sciences at Philadelphia, as well as the Herbarium of Columbia College, lead to the recording of some notes on the rarer species. These I have thought best to arrange and print in the following form, in advance of the publication of my monograph on the North American species of the genus.

POLYGONUM NEWBERRYI Small, Bull. Torr. Club, 21: 170 (1894).

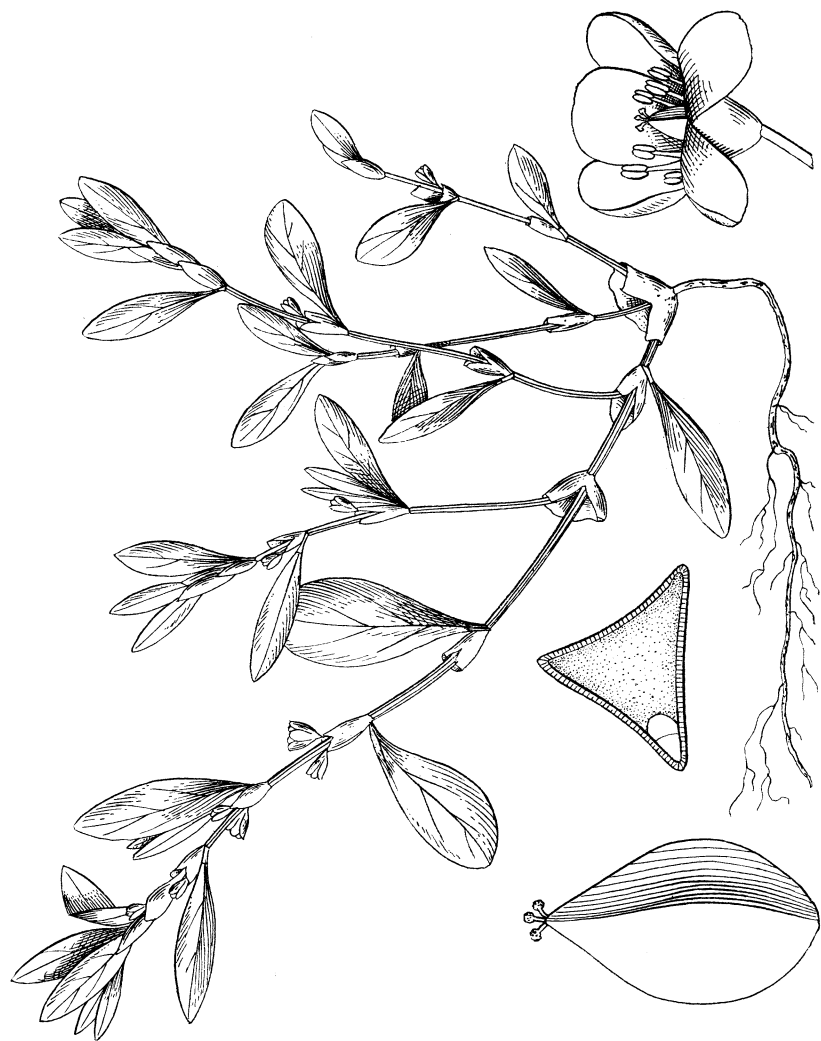
The following Western collections should be referred to *P. Newberryi*: E. Hall, No. 446, collected in 1871; T. J. Howell, Mt. Hood (6,000–8,000 ft.), collected in August, 1881; E. C. Smith, No. 747, Mt. Ranier, Washington, collected August, 1890.

It may be interesting to note in this connection that glabrous forms of the above are related to *P. Davisæ* of California, while the tomentose plants approach *P. sericeum*, of Siberia, in aspect.

POLYGONUM EMERSUM (Michx.) Britton, Trans. N. Y. Acad. Sci. 8: 73 (1889).

*Polygonum rigidulum* Sheld. Bull. Geol. and Nat. Hist. Surv. Minn. 9: 14. t. 1 (1894).

Mr. Sheldon has evidently been misled, in describing a form or state of *P. emersum* under the name *P. rigidulum*, by not being sufficiently acquainted with the former plant. I have examined between one and two hundred specimens of *P. emersum* from all parts of North America, and cannot see that the characters assigned to *P. rigidulum* have any specific value. His distinguishing points are "larger size, aquatic habitat, the geniculate, branching, tumid stems and the obcuneate, almost glabrous, obliquely attached leaves." In the first place, *P. emersum*, like the other two members of the same group, *P. amphibium* and *P. Hartwrightii*, is very variable, although an exceedingly good species, and secondly, about one-half of the specimens I have examined



POLYGONUM BOREALE (LANGE) SMALL.

possess all or some of the characters assigned by Mr. Sheldon to the proposed species, and the others show them in a greater or less degree.

After some years of observation on this and other species of *Polygonum*, I would not place much value in size, for some of our common species under certain conditions grow but two or three inches tall, while again we find them elongating to six feet. As to the aquatic habitats, at all the localities where I have met with *P. emersum*, I have found it ranging from almost dry ground to one or two feet of water, both in swamps, quiet margins of lakes and rivers and in fairly swift running currents. The amount and manner of branching, as well as the tumidity of the internodes, depends on the size and strength of the plants. The shape of the leaves and the amount of pubescence are of little or no value, for the same patches produce variously shaped leaves as well as a great variation in the length of the petioles, and some plants may be glabrous while others are entirely covered with strigose pubescence.

The specimens distributed from the collections of the University of Minnesota as *P. emersum* differ more from the usual state of that species than do the ones sent out as *P. rigidulum*, and I have seen but one other specimen that corresponds with them. This was collected in Scott's Bluff county, Nebraska, by Rydberg, No. 349.

*POLYGONUM PUNCTATUM ROBUSTIOR* n var.

Robust, of a rather dull green color, nearly glabrous. Stem erect, 4-7 dm. long, often with a long, creeping or horizontal base, more or less papillose, sometimes strigillose, leaves oblong or lanceolate, 3-17 cm. long, .5-4 cm. broad, paler on the lower surface than on the upper and strongly punctate, often crisped and undulate; ocreæ 1-1.5 cm. long, strigillose, fringed with long bristles, loose, mostly inflated about the nodes, sometimes opened obliquely at branching nodes; ocreolæ contiguous or imbricated entire, nearly naked; pedicels 3-4 mm. long; achene triquetrous, 3 mm. long, broadly-oblong, minutely granular but rather shining.

This variety is of aquatic habit, being characteristic of the borders of lakes, ponds and rivers. The creeping or horizontal bases often reach a length of three feet. The plants range from two to three times larger than the typical form and are showy on account

of the large white flowers which are about 6 mm. in diameter. The achene, besides being larger than in the normal form, is more distinctly granular and often rather dull, and I have found no lenticular ones on the plants at hand.

It ranges southward through the Atlantic States from Massachusetts, and occurs also in Mexico, Central and South America.

POLYGONUM LONGISTYLUM Small, Bull. Torr. Club, 21: 169 (1894).

Since describing the above species I have seen specimens from New Madrid Co., Missouri (Bush, No. 177); New Orleans, Louisiana (Ingalls); Alexandria, Louisiana (Hale); Indian Territory (Palmer, No. 286).

POLYGONUM MEXICANUM Small, Bull. Torr. Club, 19: 356 (1892).

In 1883 *P. Mexicanum* was gathered as far south as Camaron, Mexico, by J. N. Rovirosa.

POLYGONUM OPELOUSANUM Riddell; Small, Bull. Torr. Club, 19: 354 (1892).

Since the writing of my last note concerning the above species\* it has been found in Newton county, Missouri, by Mr. B. F. Bush in September, 1893. He records it as growing in swampy places and as being uncommon, and distributed it as *P. acre leptostachyum* (321), which form, however, it does not resemble. The plant is thus brought within the limits of our conventional Northern Flora, and, like various other Southern species, it follows the Mississippi River Valley as far north as the swamps of southeastern Missouri. The specimens of this collection are very much like the type, both in their external appearance as in the very slender build, the strict and erect branches and the numerous and linear leaves, and in the minute characters of the achene, the flowers and the strongly and conspicuously fringed ocreolæ.

POLYGONUM SETACEUM Baldw.; Ell. Bot. S. C. & Ga. 1: 455 (1817).

Heretofore confined to the Southern States, this form has lately been collected at three different stations within the bounds of the Northern Flora. Mr. Bush made two collections (114, 118) of it in Dunklin county, Missouri, in September, 1893. In the same month and year Mr. H. Eggert found the plant in Butler county,

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\* Bull. Torr. Club, 21: 168.

southeastern Missouri, growing in the swamps of that region. This, like the preceding, follows the Mississippi River northward, and also shows the same variation in the amount and strength of the strigose pubescence as do the Southern individuals of this species.

POLYGONUM PERSICARIOIDES H.B.K. Nov. Gen. 2: 179 (1817).

This species has been found within the limit of the Northern Flora by Mr. H. J. Webber on the Dismal River, Nebraska. The specimens of the collection are not numbered, but are dated July 14, 1889.

POLYGONUM CAREYI Olney, Proc. Prov. Franklin Soc. 1: 29 (1847).

There is an unnamed specimen of the above, lying in the Herbarium of the Academy of Natural Science at Philadelphia, collected by Dr. Pitcher at Fort Gratiot, Michigan. No date is given, but the specimen was evidently found a number of years before the originals of Olney were collected.

POLYGONUM BOREALE (Lange).

*Polygonum aviculare* L. var. *boreale* Lange, Consp. Fl. Grœnl. 105 (1880).

Annual, glabrous, herbaceous and somewhat fleshy. Stem ascending 1-2 dm. long, simple or sparingly branched; leaves obovate, oblong or elliptic-obovate, 1-3 cm. long, .5-1 cm. broad, obtuse, slightly papillose, somewhat acuminate at the base, short-petioled, mid-rib alone prominent; ocreæ oblique 5-7 mm. long, silvery or brownish, only slightly lacerate; axillary clusters 2-5 flowered; pedicels slender; 3-4 mm. long, 5-parted to below the middle, calyx 4 mm. long, segments obtuse, light green, with white or cream-colored borders inclined to be open; stamens 6, included; filaments short and stout; style 1 mm. long, 3-parted to the base; achene ovoid, 3.5 mm. long, triquetrous, somewhat pointed, dull and striate-reticulated. (Plate 224.)

I have now seen this form from two Greenland collections and can not find any characters that warrant its disposal as a variety of *P. aviculare*.

The general character of the plant is different from that species, and the diagnosis as given above will serve to separate it. One of the best distinctions is in the fruit. *P. aviculare* has a pyramidal-ovoid achene, whereas that of *P. boreale* is simply ovoid and

twice as large. We have the plant from two stations in Greenland, Fgaliko (Rosenvinge) and Christiansh  l (A Hartz) July, 1890.

Since writing the above a sheet from the Meisner Herbarium has been seen which bears a specimen of the above collected in Iceland by Mr. Ed. Jardin in 1866, and on the label Meisner has written a name which, however, like a number of other manuscript names, he never published.

POLYGONUM RAMOSISSIMUM PROLIFICUM Small, Bull. Torr. Club, 21: 171 (1894).

I described this variety with some hesitation from specimens from a single locality in Nebraska. Since then the same form has been found by Prof. A. S. Hitchcock, at Olathe, Kansas, and by Mr. E. P. Bicknell, at York Harbor, Maine. These collections, although smaller than the type, are otherwise almost identical.

POLYGONUM EXSERTUM Small, Bull. Torr. Club, 21: 172 (1894).

Collections have recently been made extending the range of this lately described species. They are as follows: Numerous stations within the influence of brackish water north of New York city (Bicknell); Woodbridge, New Jersey (Lighthipe); Atchinson, Nebraska (Bush); distributed as *P. ramosissimum*, number 329 and Saskatchewan (Bourgeau). The latter is an old collection made in Paliser's British North American Exploring Expedition, during 1857-8, distributed as *P. aviculare* var., and placed provisionally by me under *P. ramosissimum* in my Preliminary List of American Species of Polygonum.

POLYGONUM SAWATCHENSE Small, Bull. Torr. Club, 20: 213 (1893).

Plants almost identical with the type of *P. Sawatchense* are preserved in the Herbarium of Lafayette College. They were collected in the mountains near Bridger Butte, Wyoming, on July 7, 1873, by Prof. T. C. Porter, and represent the fleshy, reduced and scurfy state this species assumes at high altitudes. The more elongated and wiry form has also been found in 1892, at Custer, in the Black Hills of South Dakota, by Mr. P. A. Rydberg (No. 983).

POLYGONUM TENUE Michx. Fl. Bor. Am. 1: 238 (1803).

*Polygonum microspermum* Sheld. Bull. Geol. and Nat. Hist. Surv. No. 9, 70 (1894), not Small.

*Polygonum tenue* var. *microspermum* Sheld. l. c., not Engelm.

*Polygonum Engelmanni* Sheld. l. c., not Greene.

Specimens of *P. tenue* from Minnesota have lately been erroneously referred to *P. microspermum*,\* and to avoid further confusion of the geographical range of the latter species, I take this means of correcting the mistake. Taking into consideration the fact that *P. microspermum* is a characteristic plant of the highest mountains of Middle Colorado, where it has been collected only two or three times and at stations not widely separated, and then taking into consideration the laws of geographical and altitudinal distribution, we should not expect to find the species at a comparatively low altitude in Minnesota. Further, an examination of the specimens on which Mr. Sheldon based his determinations shows them to lack all the essential characters of *P. microspermum*, and to possess all the essential characters of *P. tenue*. Selecting a few of the more prominent characters, we see that *P. microspermum*, like *P. Douglasii*, has a flat leaf. *P. tenue* has leaves with two lateral impressions on either side of and parallel with the midrib. They also differ much in shape from those of *P. microspermum*. The pedicels of the latter species are slender and deflexed, even in flower, whilst those of the former are short (sometimes almost wanting), stout and always erect. The achene of *P. microspermum* is oblong or oblong-ovoid, smooth and shining; that of *P. tenue* is strictly ovoid, granular on and about the angles, smooth and shining only at the centres of the faces. The Minnesota specimens referred to, collected in Chippewa county, possess all these characters of *P. tenue*, and others, into whose details it is unnecessary to enter, as the manner of branching, the texture, flowers, ocreæ, etc.

POLYGONUM CRISTATUM Engelm. & Gray, Bost. Journ. Nat. Hist. 5: 259 (1847).

Only three stations for this rare and interesting species were known up to this season. Two of these were about Aiken, South Carolina, while the original was in Texas. While collecting in Middle Georgia this season I met with the plant, first at various points on the slopes of Stone Mountain, and subsequently encountered it in the Yellow River Valley and about Logansville. This

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\* Bull. Geol. and Nat. Hist. Surv. Minn. 9: 70.



discovery was not a surprise, as this region is between the former known localities. However, several days ago, Mr. Bicknell placed his collections of *Polygonum* for the past season at my disposal, and to my great surprise I find that he has secured *P. cristatum* from two stations in the Moshaloo Woods, near Riverdale, New York.

POLYGONUM CUSPIDATUM Sieb. & Zucc. Pl. Japon. Fam. Nat. 2: 84 (1846).

This Japanese species is gradually establishing itself in our Eastern States. It has become naturalized about Philadelphia, Pa., and Schenectady, N. Y., and during the present season Mr. T. H. Kearney, Jr., has found it established at Atlantic Highlands, New Jersey.

Three species, *Polygonum polycnemoides*, *P. setosum* and *P. equisetiforme*, natives of Eastern Europe, Western Asia and Northern Africa, have been found established by Mr. Bicknell, in the ruins of the Yonkers Carpet Mill. The fruit has been introduced from the above cited region in wool which was used at the mill. These species are the kind that take a firm hold in such situations as they are now growing in at Yonkers, whence they may spread and eventually become naturalized.

### Some new Florida Plants.

By T. H. KEARNEY, JR.

SCUTELLARIA INTEGRIFOLIA MULTIGLANDULOSA n. var.

Differs from typical *S. integrifolia* L. in the shorter stems with longer, more spreading and more glandular pubescence, in the obovate or oblanceolate upper leaves, which are less diminished and bract-like above, so that the inflorescence has a less racemose character, in the longer and more glandular pedicels, in the more glandular calyx and in the larger lower lip of the shorter, more ringent corolla.

Collected by Dr. Boykin in "the low country of Georgia;" by Chapman in Florida; by Rugel in 1843 near St. Mark's, in the same State, and by Mr. George V. Nash in 1894 near Eustis.